New College

REAL AND COMPLEX ANALYSIS

B.A./B.Sc. III
Semester-VI

JEEVANSONS PUBLICATIONS

SYLLABUS

K.U. Kurukshetra, C.D.L.U. Sirsa, CRSU Jind and G.J.U. Hissar

B.A. / B. Sc. 3rd Year

SIXTH SEMESTER

REAL AND COMPLEX ANALYSIS

Time Allowed : 3 Hours

Maximum Marks { B.Sc. : 40 / B.A. : 27

Note. *The examiner is requested to set* ***nine questions*** *in all, selecting two questions from each section and* ***one compulsory question*** *consisting of five or six parts distributed over all the four sections. Candidates are required to attempt* ***five questions in all****, selecting* ***at least one question*** *from each section and the compulsory question.*

Section - I

Jacobians, Beta and Gamma functions, Double and Triple integrals, Dirichlet's integrals, Change of order of integration in double integrals.

Section - II

Fourier's series : Fourier expansion of piecewise monotonic functions, Properties of Fourier Coefficients, Dirichlet's conditions, Parseval's identity for Fourier series, Fourier series for even and odd functions, Half range series, Change of intervals.

Section - III

Extended Complex Plane, Stereographic projection of complex numbers, continuity and differentiability of complex functions, Analytic functions, Cauchy-Riemann equations. Harmonic functions.

Section - IV

Mappings by elementary functions : Translation, Rotation, Magnification and Inversion, Conformal Mappings, Mobius transformations. Fixed points, Cross ratio, Inverse Points and Critical mappings.

SYLLABUS

M.D.U. Rohtak, C.B.L.U. Bhiwani and I.G.U. Meerpur (Rewari)

B.A. / B.Sc. 3rd Year

SIXTH SEMESTER

REAL AND COMPLEX ANALYSIS

Time Allowed : 3 Hours | Maximum Marks { B.Sc. : 40 / B.A. : 27

Note. *The question paper will consist of* ***five*** *sections. Each of the first four sections will contain two questions and the students shall be asked to attempt* ***one*** *question from each section.* ***Section–V*** *will contain* ***six*** *short answer type questions without any internal choice covering the entire syllabus and shall be* ***compulsory.***

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